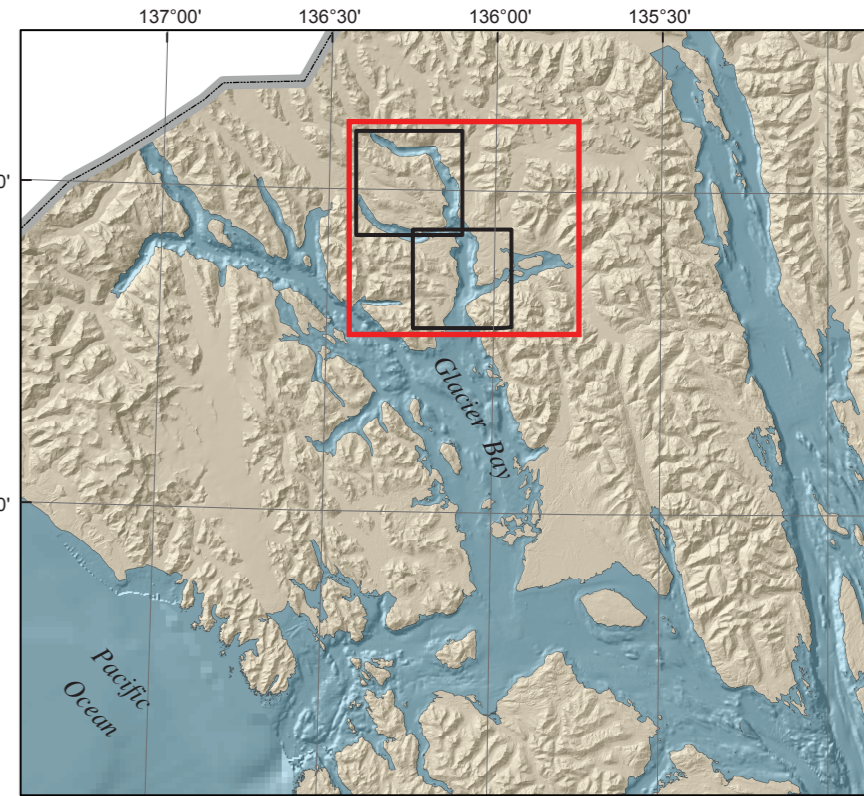


- LIST OF MAP UNITS
- CIRCALITTORAL—30 m–80 m Water Depth
- Delta
 - Moraine
 - Wall
- CIRCALITTORAL (OFFSHORE)—80 m–200 m Water Depth
- Delta
 - Floor
 - Moraine
 - Wall
- MESOBENTHIC—200 m–1,000 m Water Depth
- Delta
 - Floor
 - Moraine
 - Wall

This map shows the primary morphologic features within Muir Inlet, Glacier Bay National Park and Preserve. The Coastal and Marine Ecological Classification Standard (CMECS) (Madden and others, 2008) by the National Oceanic and Atmospheric Administration (NOAA) and NatureServe was used to classify various submarine landforms.

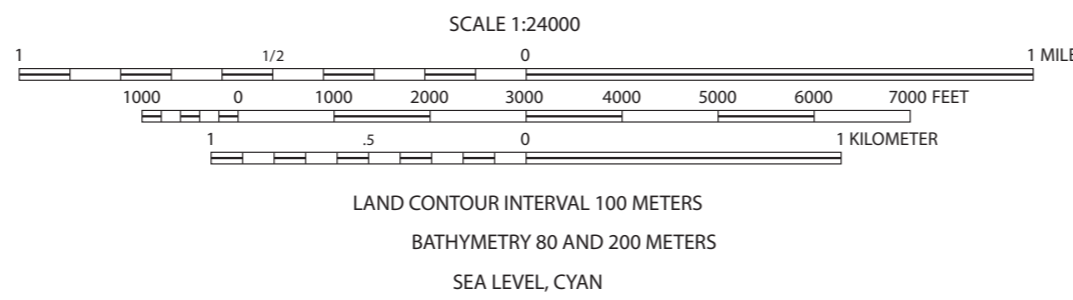
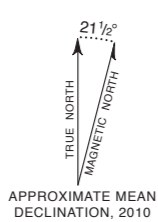
Units displayed on this map represent the Geomorph Component of the CMECS classification draped over the shaded bathymetry shown in the map on sheet 1. Geomorphs shape the seascapes and provide structure, channel energy, regulate bioenergetics, and control transfer rates of energy, material, and organisms (Madden and others, 2008). Geomorphs are defined based on spatial scales ranging from megageomorph (largest) to microgeomorph (smallest). All units depicted in this map are mesogeomorph scale as they range in size from tens of meters to kilometers. All geomorphs displayed are part of the mesogeomorphs continental margin and fjord. Smaller-scale landforms within the mesogeomorph scale exist within the map units, including channel, tidal channel, rock outcrop, and fan.

Each geomorph is divided into its respective CMECS benthic depth zone: deep infrafjoral (5–30 m), circalittoral (30–80 m), circalittoral (offshore) (80–200 m), and mesobenthic (200–1,000 m). Bathymetric contours represent the divisions between these depth zones. As water depth increases, the shade of color for each geomorph darkens. Deltas depicted here are both fluvial and fully glacialfluvial in origin and are, at least partially, fed by glacial meltwater runoff. The fan at the mouth of Muir Inlet has been described as a grounding-line fan originating from ice-contact sediment deposition and outwash as the glacier grounded in this position (Seramur and others, 1997). The moraine mesogeomorph in lower Muir Inlet was created during glacial retreat with periodic phases of readvance to form cross-fjord ridges (Seramur and others, 1997). Mesogeomorph shoals are thought to be bedrock sills capped with glacial material. See the map on sheet 1 for perspective views of these features.



Location map showing locations of map (red) and upper (sheet 2) and lower (sheet 3) Muir Inlet.

Base from U.S. Geological Survey National Elevation Dataset
NASA Landsat 7 Imagery, 1999
Universal Transverse Mercator Zone 8N Projection, WGS84



Seafloor Geology mapped by Luke D. Trusel, 2008.
Based on multibeam sonar data collected in June
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GIS database and digital cartography by Luke D.
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CMECS Geomorph Component Map of Muir Inlet, Glacier Bay National Park and Preserve, Alaska

By
Luke D. Trusel¹, Guy R. Cochrane², Lisa L. Etherington³, Ross D. Powell¹, and Larry A. Mayer⁴
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¹ Analytical Center for Climate and Environmental Change, Northern Illinois University
² Coastal and Marine Geology, Pacific Science Center, U.S. Geological Survey
³ Coral Reef National Marine Sanctuary
⁴ Center for Coastal and Ocean Mapping, University of New Hampshire

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